Digital Home Theater Receiver

RX-V440

6.1-channel receiver that leads its class with a great combination of power, performance and convenience. Major features include 6-channel discrete amplification (95W x 6, Max), Yamaha's Digital ToP-ART design concept, Quad-Field CINEMA DSP, 24 surround programs and SILENT CINEMA. Compatible with the newest 6.1-channel movie sound formats including Dolby Digital EX, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1, Dolby Pro Logic II and DTS Neo:6.

DIGITAL
ToP·ART

CINEMA DSP DIGITAL
silent CINEMA
DOLBY DIGITAL·EX PRO LOGIC II
dts ES NEO:6
6CH EXT. INPUT

Discover the Pleasure of a True Home Theater Experience with a High Quality Receiver that Is Easy to Use.

Command the Advanced Capabilities of Yamaha Technology and Enjoy the Benefits of a Wide Range of Functions with the Home Theater Receiver that's Perfect for the Entire Family.

- High power 6-channel discrete amplifier configuration (95W x 6, Max)
- Digital ToP-ART (Total Purity Audio Reproduction Technology)
- High Current Amplification for high sound quality
- Easy setup and operation
- Compatibility with latest movie sound formats including Dolby Digital EX, Dolby Pro Logic II, DTS-ES Discrete 6.1, and DTS Neo:6
- Powerful 32-bit Yamaha LSI (YSS-938) for CINEMA DSP processing
- 24 surround programs (44 variations) with SILENT CINEMA and Night Listening mode
- Front panel Video Aux input terminals
- Speaker A, B, or A+B Selection
- 2 Component Video Input Terminals

Digital ToP-ART

Digital ToP-ART (Total Purity Audio Reproduction Technology) is the name Yamaha has given to a design philosophy whose goal is to maximize digital quality while minimizing analog circuitry. The culmination of the best digital engineering and design possible today, it brings together several key elements to create the best-sounding, easiest-to-use A/V components available

Advanced Decoding Circuitry Including Yamaha's Exclusive YSS-938 32-Bit Floating Point Quantization LSI

The decoding circuitry performs Dolby Pro Logic II, Dolby Digital, Dolby Digital EX, DTS Digital Surround, DTS-ES (DTS-ES Matrix 6.1 and DTS-ES Discrete 6.1), and DTS Neo:6 decoding with extreme accuracy, as well as all digital sound field processing. It also outperforms other systems in the precise synchronization of images and sound. Its low 3V power consumption minimizes digital noise.

Yamaha's Exclusive YSS-938 32-Bit Floating Point Quantization LSI

96kHz/24-Bit DACs for All Channels

The RX-V440's vitally important digital-to-analog converters use an extremely 96kHz/24-bit high performance. They perform accurate sound field reproduction for high quality multi-channel sources, and for two-channel stereo, provide outstanding separation and precise musical delineation. They deliver superior low level linearity with excellent full-scale performance under varying operation conditions.

4-Layer DSP Processing Board

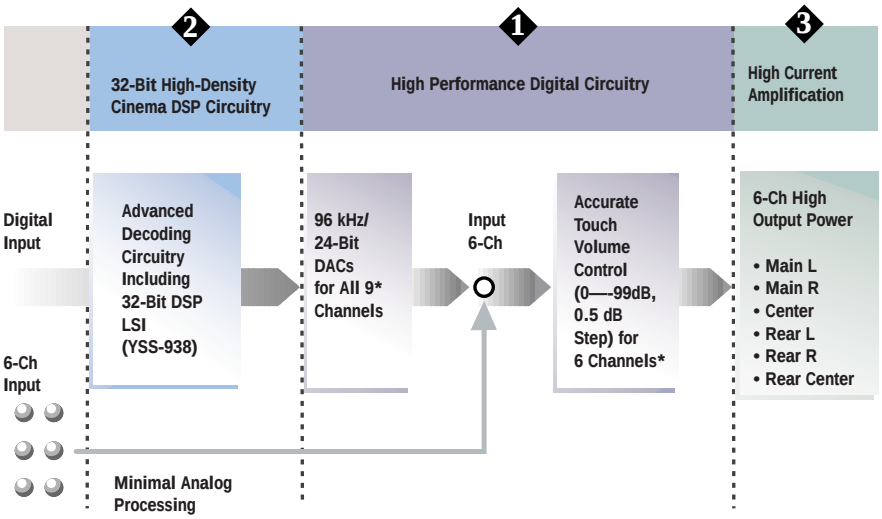
All of the DSP IC chips and related circuitry are located together on a 4-layer board. This is the first time a 4-layer board has been used, and it provides a number of advantages. The dimensions are smaller (2/3 previous types), so signal paths are shorter and there is more

RX-V440

Digital Home Theater Receiver

DIGITAL
ToP·ART
Total Purity
Audio Reproduction Technology

From digital input, through digital processing, to amplification, maximum signal quality is maintained every step of the way.



* In addition to the six channels (Main L/R, Center, Rear L/R, Rear Center) there is a subwoofer output (hence 6.1-channel format compatibility) and two front effect channels (a total of 9 DACs). The front effect channel signals, unique to Yamaha CINEMA DSP, are mixed with the main channel signals to achieve more precise separation of dialogue, music and effects on the front sound stage and a superior sense of presence as compared to other systems.

space for the large power supply components. Digital interference is reduced and impedance is lower as well.

Accurate Touch Volume Control

No one expects more from a volume control than up and down — except Yamaha. We decided that controlling the volume could be made both easier and more accurate, and the result is the Accurate Touch Volume Control. It lets you make delicate adjustments within a narrow range, yet enables you to move to very high or low levels more quickly. Its extreme accuracy is due to a high-signal-resolution analog design in conjunction with an ultra-precise digital control circuit. The wide control range extends from 0dB to 99dB, with narrow 0.5dB steps throughout the entire range for delicate control, even at low volumes.

Brief Guide to Movie Sound Formats

Dolby Pro-Logic
Dolby Lab's basic 4-channel format, widely used in ordinary theaters and for home videos.

Dolby Pro Logic II
Improved version of Dolby Pro-Logic for music and movies. With a more intelligent matrix decoder, it is suitable for both stereo and surround-encoded sources. It offers "bass management" as well as the option of incorporating "width," "dimension" and "panorama" controls.

Dolby Digital
The most popular 5.1-channel home theater sound system. An improvement over Dolby Pro-Logic in that it offers: 1) Full frequency response in all channels (3Hz — 20kHz), 2) discrete surround channels, and 3) a separate track for bass only, called the Low Frequency Effects channel.

Dolby Digital EX
Dolby's latest surround format, this is Dolby Digital with an added center rear channel. The rear center channel is actually matrixed into the two rear channels, and is extracted upon playback. (Formerly called Dolby Digital Surround EX, or Dolby Digital Matrix 6.1.)

DTS Digital Surround
The basic DTS 5.1 channel sound format. Uses a higher data rate than Dolby Digital.

DTS-ES Matrix 6.1
In this format, the back surround channel is matrix encoded into the left and right surround channels. For playback, the three channels are separately decoded.

DTS-ES Discrete 6.1
DTS-ES uses its large bandwidth to provide a fully discrete rear center channel, as opposed to a matrixed one.

DTS Neo:6
Provides 5.1 or 6.1 channels of matrix decoding from stereo matrix material. Also decodes Extended Surround matrix soundtracks and has a Music mode to expand stereo non-matrix recordings to 5.1 or 6.1 channels.

High Current Amplification Achieves Low Impedance/ High Current Power from Input to Output.

The Importance of High Current

Although power rating is often the first thing customers look at in a receiver, high power output does not necessarily mean good sound. High current level is a much more important factor. Yamaha receivers has always had fairly high current levels, but with the RX-V440, we have further improved this performance.

What It Does

In brief, Yamaha High Current Amplification achieves low impedance, high current power from input (power supply circuit) to output (speaker terminals). This drives the speakers much more smoothly and dynamically, for better sound from all sources, including 2-channel audio.

Specific Improvements

The first problem to be overcome was the difference in voltage that ordinary receivers suffer between the power supply and amplifier circuits, caused by current fluctuations. This was solved by using custom-made, high-grade block electrolytic capacitors and a copper grip for one-point grounding. Another current drop is generally seen between the amplifier circuit and the speaker terminals, caused by the cables, speaker output relays, copper circuit boards, and so on. To increase current here, we used an extra-large, low-impedance transformer and gold-plated speaker relay contacts.

6-Channel High Power, Discrete Amplifier Configuration

The RX-V440 will deliver as much as 95W of power to each of six channels (two main, two rear, one center and one rear center). This is more than enough to fill even the largest rooms with vibrant music and Richter-scale sound effects. 6-4 mixdown is also provided, for enjoying 6-channel input sources from four or five speakers you already have on hand with or without a subwoofer.

High Dynamic Power Capability

The RX-V440 is capable of delivering large amounts of reserve power for accurate reproduction of the high energy peaks that are especially prevalent in digital audio sources. This emphasizes the music's dynamic qualities and provides a sharper sound image.

Linear Damping (Main L/R Channels)

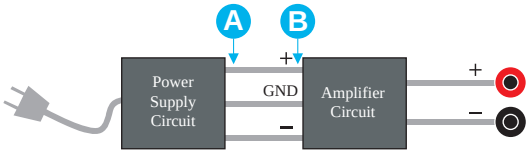
Level variations due to high amp impedance tend to reduce an amplifier's damping factor, and frequency variations cause it to fluctuate. This circuit cancels the effect of these variations, maintaining a high, stable damping factor, for superior articulation of all sounds and better frequency response.

Anti-Resonance ToP-ART Base

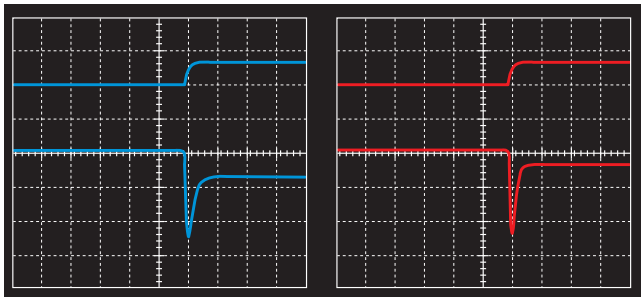
Supporting the heavy heat sinks and circuit board is Yamaha's ToP-ART base, which has exceptional anti-resonance and damping

High Current Amplification Principle

The voltage (A) of Block Electrolytic Capacitors and voltage (B) of Power Transistor Collector should be ideally at the same level. However, when the current become large, there will be a big difference in the level of each voltages.



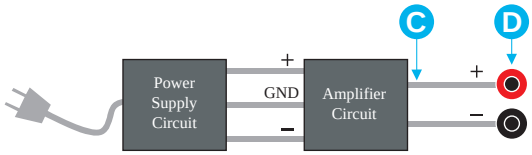
Voltage level difference between A (power supply circuit) and B (amplifier circuit).



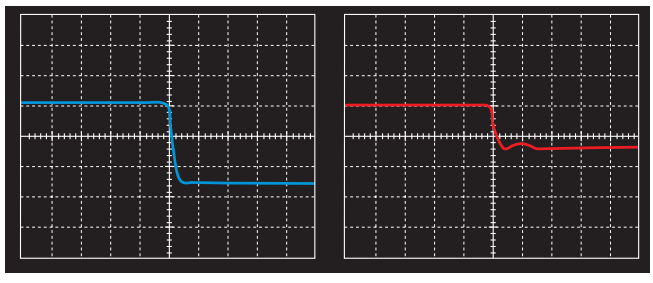
Conventional Amplifier

High Current Amplification

There is also a level difference between Output of the Power Amplifier (C) and Speaker Terminals (D), which is reflected by coppers of PCB, Speaker out put relays, cables and so on, resulting damaging the sound quality.



Voltage level difference between C (amplifier circuit output) and D (speaker terminals).



Conventional Amplifier

High Current Amplification

characteristics. Beneath this base is the bottom of power amplifier, part of the heavy chassis which is also designed for maximum vibration damping.

Wide-Range Frequency Response for DVD-Audio and SACD

With an extremely wide frequency range of 10 to 100,000Hz, this receiver is capable of delivering the full potential of the new digital audio sources DVD-Audio and SACD.

Optimum Space Utilization

The use of highly integrated LSIs allows an interior design that maximizes power and sound quality by positioning all the digital processors and related circuitry in one small area. This leaves most of the space open for the power amplifier components: transformers, capacitors, heat sink and so on. This means that these parts can be much larger than usual for greater power, that they can be separated for minimum chance of interference, and that circuits can be arranged in straight lines for maximum signal purity. For example, the tone control circuit layout is straighter and shorter than ever.

Finest Parts Used Throughout

In order to realize the goals of massive power and superlative sound quality, Yamaha technicians completely re-evaluated all the parts used in previous receivers. As a result, many were replaced with more expensive or custom-designed units.

- Extra-Large Custom-Made Block Electrolytic Capacitors

Developed specifically for the RX-V440, the 10,000µF block electrolytic capacitors use low-magnification foil and are exceptionally high quality.

- Direct Signal Path Speaker Relays with Gold-Plated Crossover Connection and Shielding

Speaker switching is accomplished by relays right in front of the speaker terminals, rather than at the switch position. This results in a shorter signal path and minimum output impedance.

- High Performance Myca Capacitors and Film Capacitors

At this level of sound quality, even these small parts make a difference. The high precision FE mica and metallic mylar film capacitors use polypropylene material and are the highest performance types on the market.

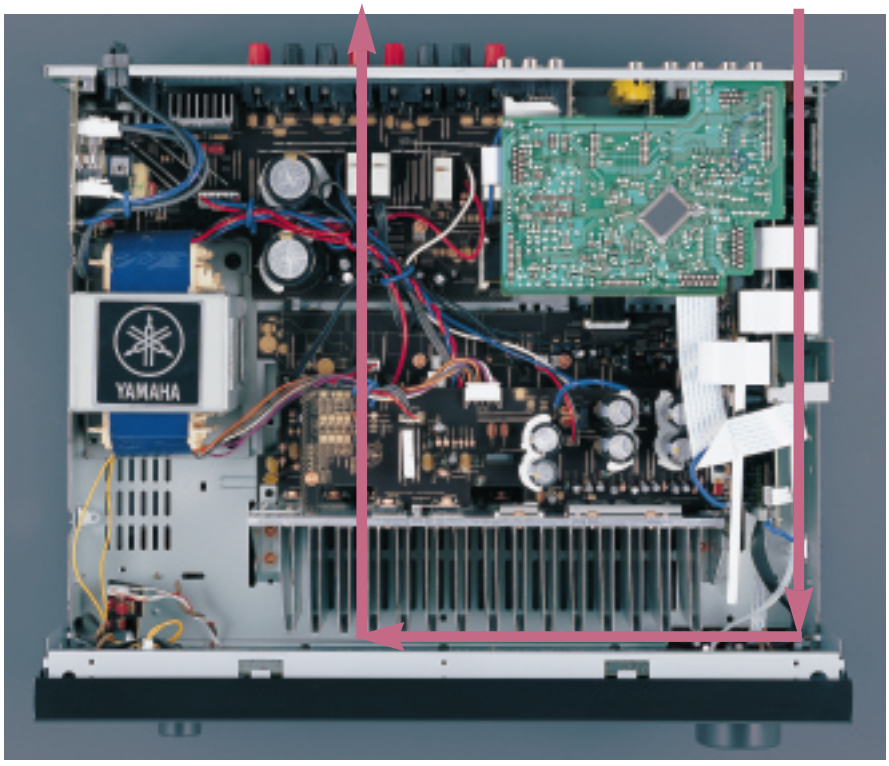
- Extra-Large Low-Impedance Transformer

The large 4.2 kg low-impedance transformer is an important factor in the RX-V440's extremely stable power supply.

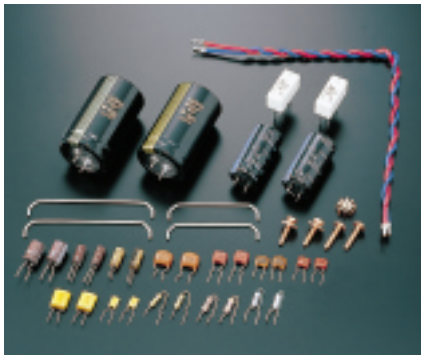
- Thick PC Board Wiring with 1.6mmϕ Copper Jumper Cables

The audio signal is routed within the amplifier through exceptionally thick, top quality wire, ensuring that signal purity is maintained.

RX-V440 Interior View and Signal Flow (→)



RX-V440 High Quality Parts



No Other Surround Sound System Can Match for Rich, Detailed, Realistic Sound.

Going Beyond Conventional Multi-Channel Systems

Conventional 5.1-channel/6.1-channel audio reproduction systems base their sound on Dolby Digital and DTS decoding, using matrix and steering technologies to create surround sound effects. Yamaha CINEMA DSP is much more advanced, actually creating richly realized independent sound fields that merge to envelop you in an unmatched surround sound experience. With dialogue, music and effects from the presence (front), rear and rear sound fields, you will hear sound with highly accurate localization, smooth movement, exceptional clarity and richness, and startlingly realistic presence. It will seem as if the walls of your room have disappeared and you are in the middle of your own immense theater!

Quad-Field and Tri-Field CINEMA DSP

Tri-Field CINEMA DSP projects three sound fields into the home theater: a Presence sound field in the front and two Surround sound fields in the left rear and right rear, resulting in a powerfully realistic three-dimensional soundscape. And now Yamaha also offers Quad-Field CINEMA DSP. It adds an additional rear center sound field to the Tri-Field system, in order to enjoy the new 6.1-channel formats, Dolby Digital EX and DTS-ES.

CINEMA DSP Programs

One of the main advantages of CINEMA DSP is the large choice of sound field programs available. The basic program for movies is Enhanced, which greatly improves the sound of the surround fields. The "largest" of these sound fields is Spectacle, which recreates the open feeling of large-scale, epic motion pictures. The Sci-Fi is designed to reproduce all the complex, dynamic sounds of space/science fiction movies. Adventure and General are also included.

Center Graphic Equalizer

In addition to the many audio parameters that can be adjusted, the RX-V440 provides an even greater degree of sound field control with the inclusion of a Center Graphic Equalizer. This lets you finely "tune" the overall balance of the sound field to achieve the optimal imaging for movie sound.

Night Listening Mode for All Surround Programs

When you're listening to movies late at night and turn down the volume during loud scenes, dynamic range suffers and

RX-V440 Surround Programs: 24 Surround Programs (44 Variations)

HiFi DSP Programs		Variations	
CONCERT HALL	Concert Hall	1	A circular hall with an expansive sound field.
JAZZ CLUB	Jazz Club [The Bottom Line]	1	A popular New York club seating 300.
ROCK CONCERT	Rock Concert [The Roxy Theatre]	1	The well known L.A. rock showcase seating 460.
ENTERTAINMENT	Disco	1	Designed to emphasize the exciting rhythms of disco music.
	6 Ch Stereo	1	For reproducing stereo sources via six channels.
Program Subtotal	**5**	**5**	

CINEMA DSP Programs		Variations	
ENTERTAINMENT	Game	1	Adds a deep, spacious feeling to video game sounds.
MUSIC VIDEO	Pop/Rock	1	For 2 to 6.1 channel live music sources
TV THEATER 1	Mono Movie	1	For old monaural video sources.
	Variety/Sports	1	For 2 to 6.1 channel music and sports shows.
MOVIE THEATER 1	Spectacle	5	Emphasizes the excitement of scenes with high visual/audio impact.
	Sci-Fi	5	For reproducing the expansive, supernatural effects of high-tech SF movie soundtracks.
MOVIE THEATER 2	Adventure	5	A powerful three-dimensional sound field with superb clarity.
	General	5	Provides clear dialogue, with a soft, expansive sound.
ENHANCED	Enhanced	5	A wide, all-enveloping surround sound field as in a theater.
Program Subtotal	**9**	**29**	

Surround Formats		Variations	
	Dolby Digital	1	For precise reproduction of the various movie sound formats.
	Dolby Digital EX	1	
	DTS Digital Surround	1	
	DTS-ES Matrix 6.1	1	
	DTS-ES Discrete 6.1	1	
	Dolby Pro-Logic	1	
	Dolby Pro Logic II Music	1	
	Dolby Pro Logic II Movie	1	
	DTS Neo:6 Music	1	
	DTS Neo:6 Cinema	1	
Program Subtotal	**10**	**10**	

Program Total	**24**	**44**

Remarks ●: HiFi DSP Programs ●: A/V Programs ●: CINEMA DSP ●: Tri-Field CINEMA DSP Capable ●: Quad-Field CINEMA DSP Capable

you may miss some dialogue and other sounds. By engaging the Night Listening mode, you can reduce the volume and still enjoy proper tonal balance and dynamic range. You hear dialogue clearly and the music and action are just as exciting (without the screams and explosions disturbing others).

Auto Priority Input Terminal Selection and Auto Decoder Selection

Digital input terminals are provided to handle any kind of digital input. Functions are programed to select priority in order of coaxial digital, optical digital and analog when different digital formats are input from the same source. The sound decoder is also automatically selected and processed according to the combination of the format of input signals and the selected sound field programs, while DSP sound field processing is optimized at the same time.

SILENT CINEMA and Virtual CINEMA DSP

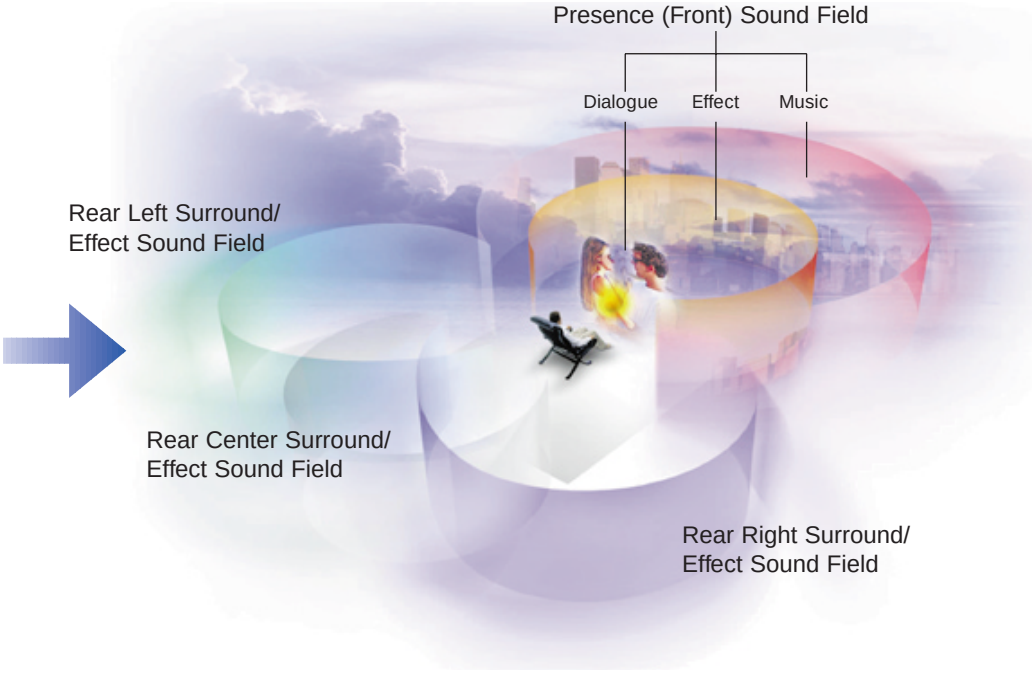
The SILENT CINEMA mode gives you private listening enjoyment of multi-channel music or movie sound, including Dolby Digital and DTS surround, through ordinary headphones. It's automatically selected when the headphones are plugged in. Virtual CINEMA DSP lets you enjoy the effects of CINEMA DSP surround sound without using rear speakers (handy for use in custom installations where some rooms don't have rear speakers). It can be used with the main/center/front effect speakers or even with just the two main left and right speakers.

SILENT CINEMA Sound Field Imaging

Virtual CINEMA DSP Sound Field Imaging

Quad-Field CINEMA DSP

Conventional 6.1-Channel Systems



All the A/V Connections Needed for the Present and Into the Future! Plus a Host of Convenient Features.

Easy Setup and Operation

The RX-V440 has an ergonomic design that ensures simple, convenient operation. Everything from the layout of the controls to the display menus has been planned to make using the unit easy and enjoyable.

Convenient Setup and Controls

Extensive yet easily understandable setup menus makes it easy to select and adjust desired functions. Especially useful is a speaker display in the Speaker Test mode that makes it easy to balance the levels of all speakers. DSP programs can be selected with the remote control so their effects can be judged from the listening position. A rotary encoder Input Selector makes source selection quick and easy.

Program Name and Surround Sound Indications

The front panel display shows a variety of surround sound status indications, so you always know what modes you are in. The Program name is displayed, including the word “Night” if the Night Listening mode is selected. Six sound field modes including Quad-Field and Tri-Field are also indicated.

An Extensive Range of Useful Menus

The RX-V440 gives you extensive control over audio and operational modes through a selection of parameters that can be adjusted from the on-screen menus. The Basic modes are Setup and Speaker Level, while the Sound modes feature a Center Graphic Equalizer, Speaker Set, Speaker Distance, LFE Level, Dynamic Range and Headphone Tone Control. The Input modes are I/O Assignment and Input function. Options include Display Set, Memory Guard, and two new functions, Variable Audio Mute and Zone Set. All of these parameters can be selected and adjusted from either the front panel or the remote control.

RX-V440 Extensive Connections

1 Optical and 1 Coaxial Digital Inputs (fixed and assignable)

4 A/V and 2 Audio Inputs, and 1 A/V and 1 Audio Outputs

2 Component Video Inputs (fixed and assignable) and 1 HDTV compatible Component Video Output

6-Channel External Decoder Input for Enjoying DVD-Audio/Video or SACD

Subwoofer Output Terminal

Composite Monitor Output Terminal

40-Station AM/FM Preset Tuning

2-Way Binding-Post Speaker Terminals (Banana-Plug Compatible) with Speaker A/B Terminals for Main Channels

RX-V440 Inputs and Outputs

	Analog		Digital				Video					
			Coaxial		Optical		Composite		S Video		Compo. V.*	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
CD	■		■		■							
MD/CD-R	■	■	■		■							
DVD	■		■		■		■		■		■	
D-TV/CBL	■		■		■		■		■		■	
VCR	■	■	■		■		■	■	■	■	■	
VIDEO AUX**	■				■		■		■		■	
MONITOR OUT								■		■		■*

* Comp. V: Component Video

** Video Aux terminals are on front panel.

■*: **Component Video Out is compatible with HDTV.**

■: Fixed Terminals

■: Fixed and Assignable Terminals

■: Assignable Terminals

Fixed and Assignable Terminals

Yamaha offers terminals that can be either independently assigned to sources or defaulted to fixed settings.

2 Component Video Input Terminals

Component Video inputs offer higher quality than normal composite inputs, for use with units such as DVD players that have Component Video output. The RX-V440 allows you to connect two different components for a choice of high quality video sources.

HDTV Compatible Component Video Out

The frequency response of the Component Video Monitor Out signal is 5Hz—30MHz, making it compatible with HDTV monitors.

Front Panel Video Aux Input Terminals

Front Panel Video Aux Input Terminals make it quick and easy to connect a camera, video game or other unit.

Speaker A, B or A+B Selection

Speaker A, B or A+B Selection gives you the advantage of listening to either or both of two pairs of speakers.

Preset Remote Control Unit

It can be preset with control codes for TV, DVD, VCR, CDR, and other components. It also provides control of subwoofer level.

Tuner Section Features High Quality, Easy Operation

In addition to utilizing a Direct PLL IF Count Synthesizer Tuning system, the RX-V440 also makes station selection easy. Users can preset as many as 40 stations for instant one-touch tuning, and with each one the tuning mode (auto or mono) is also memorized. Auto FM Station Memory will automatically preset the 40 strongest stations on the dial. The Preset Editing function can then be used to rearrange them into groups.

Other Notable Features

- 6-Channel External Decoder Input Terminals for Future Sound Formats
- Subwoofer Output terminal
- Sleep Timer

RX-V440 Main Specifications

AUDIO SECTION		
Maximum Power		
Main Channels		95 W + 95 W
Center Channel		95 W
Rear Channels		95 W + 95 W
Rear Center Channel		95 W
Minimum RMS Output Power (8 ohms, 20–20,000 Hz, 0.06% THD)		
Main Channels		65 W + 65 W
Center Channel		65 W
Rear Channels		65 W + 65 W
Rear Center Channel		65 W
High Dynamic Power, Low-Impedance Drive Capability		Yes
Dynamic Power/Channel	8 ohms	95 W
	6 ohms	120 W
	4 ohms	150 W
	2 ohms	190 W
Linear Damping		Yes
Damping Factor (8 ohms, 20–20,000 Hz)		100 (speaker A)
Input Sensitivity/Impedance	Phono (MM)	2.5 mV/47 k-ohms
	CD	150 mV/47 k-ohms
Frequency Response		10–100,000 Hz +0, -3 dB
Total Harmonic Distortion (20–20,000 Hz)		
CD (Main Sp Out)		0.06%
Signa-to-Noise Ratio (CD, 250 mV)		100 dB
Tone Control Characteristics		
Bass	Boost/Cut	±10 dB 60 Hz
Treble	Boost/Cut	±10 dB 20 kHz

VIDEO SECTION		
Video Signal Level		1 Vp-p/75 ohms
Component Video Signal Level	Y	1 Vp-p/75 ohms
	Pb/Cb, Pr/Cr	0.7 Vp-p/75 ohms
Signal-to-Noise Ratio		50 dB
Monitor Out Frequency Response		
Composite Signal		5 Hz–10 MHz -3 dB
Component Video Signal		5 Hz-30 MHz -3 dB
TUNER SECTION		
FM 50dB Quieting Sensitivity (1 kHz, 100% Modulation)		
	Mono	2 µV (17.3 dBf)
	Stereo	25 µV (39.2 dBf)
FM Selectivity	400 kHz	70 dB
FM Signal-to-Noise Ratio	Mono/Stereo	76 dB/70 dB
FM Frequency Response	20–15,000 Hz	+0.5/–2 dB
GENERAL		
Standby Power Consumption		Less than 1 W
Dimensions	(W x H x D)	435 x 161 x 390 mm
Weight		11 kg

RX-V440 Notable Features

DIGITAL
ToP·ART

1 High Performance Digital Circuitry

- 96 kHz/24-Bit D/A Conversion for All Channels
- Accurate Touch Digitally Regulated Volume Control Governs All Channels
- 4-Layer DSP Processing Board to Prevent Digital Interference

2 High Density CINEMA DSP Circuitry

- Powerful Original 32-Bit Floating-Point Quantization System LSI (YSS-938) for CINEMA DSP Processing
- Compatibility with Latest Movie Sound Formats including Dolby Digital EX, Dolby Pro Logic II, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1, and DTS Neo:6
- Center Graphic Equalizer for “Fine Tuning” Sound Field Balance
- 24 Surround Programs (44 Variations) including New Music Video Programs
- Night Listening Mode with Indication for All Programs
- Quad-Field CINEMA DSP for 6.1-Channel Digital Surround
- SILENT CINEMA for Headphone Enjoyment
- Virtual CINEMA DSP for Versatile Surround Enjoyment

3 High Current Amplification

- 6-Channel High Power Discrete Amplifier Configuration (95W x 6, Max)
- High Dynamic Power, Low Impedance Drive Capability
- Linear Damping Circuit Prevents Unwanted Speaker Cone Movement
- Wide-Range Audio Frequency Response (10–100,000 Hz +0/-3 dB) for DVD-Audio/SACD Compatibility
- Finest Parts Used Throughout
  - Extra-Large, Low-Impedance Transformer (4.2 kg; 9.3 lbs.)
  - Extra-Large Custom-Made Block Electrolytic Capacitors (10,000 µF)
  - Anti-Resonance Corrugate Fin Type Heat Sink
  - Direct Signal Path Speaker Relays with Gold-Plated Crossover Connection and Shielding for Stable Signal Path and Speaker Protection
  - One-Point Grounding for Improving Linearity and Damping Factor
  - ToP-ART Base for Reduced External Resonance
  - High Performance Myca Capacitors and Film Capacitors
  - Thick PC Board Wiring with 1.6mmϕ Copper Jumper Cables

Versatile, Extensive Connections

- 1 Optical and 1 Coaxial Digital Input Terminals (fixed and assignable)
- 4 A/V and 2 Audio Input Terminals
- 1 A/V and 1 Audio Output Terminals
- Front Panel Video Aux Input Terminals
- Subwoofer Output Terminal
- 6-Channel External Decoder Input Terminals for Future Sound Formats
- 2-Way Binding-Post Speaker Terminals (banana-plug compatible, all terminals)

High Video Quality

- HDTV Compatibility
- Wide-Range Video Power Bandwidth (5Hz—30MHz -3 dB)
- 2 Component Video Input Terminals (fixed and assignable) and 1 Monitor Output Terminal
- Video Conversion (Composite to S-Video, Monitor Out)

Video Conversion is not offered on models in some areas.

Convenient Operating Features

- Program Name and Sound Field Indications
- Auto Priority Input Selection and Auto Decoder Selection
- Rotary Encode Input Selector
- Easy Menu Setup
  - Basic Modes: Setup and Speaker Level (Balance Adjustment)
  - Sound Modes: Speaker Set, Speaker Distance, LFE Level, Dynamic Range, 5-Band Center Graphic Equalizer and Headphone Tone Control
  - Input Modes: I/O Assignment and Input Mode
  - Options: Display Set, Memory Guard, Audio Mute (3 steps: Mute, -20dB, -50dB) and Zone Set
- Easy Menu Setup Can Control with Remote Control and Front Panel
- 6-4 Mixdown (6-Channel Input)
- Speaker A, B, or A+B Selection
- Test Tone Generator
- Sleep Timer
- Preset Remote Control Unit with Preset Code for DVD, TV, VCR, etc.

High Quality, Stable Reception Tuner

- 40-Station AM/FM Random Access Preset Tuning
- Auto Preset Tuning

CINEMA DSP DIGITAL Yamaha's unique technology for the creation of sound fields is capable of powerfully reproducing the three-dimensional environment that movie sound engineers aim to convey, in any audio format from monaural to the latest 6.1-channel digital surround. It is compatible with DVD and all other A/V sources.

Yamaha CINEMA DSP technology has received a patent in the U.S. (Patent No. 5,261,005).

- Dolby Digital and Double D are trademarks of Dolby Laboratories Corporation.
- DTS, ES and DTS Digital Surround are trademarks of Digital Theater Systems, Inc.

- Product designs and specifications are subject to change without notice.

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